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ABSTRACT

Adapted from a variety of sources, this booklet offers students tips about improving their study skills so that they can earn better grades and make the most of their talents. Topics discussed in the booklet are why students should work to improve their study skills; listening in the classroom; getting the most from textbooks; note taking; the Cornell note-taking system; how to write well; improving math study skills; how to do well on essay tests; how to do well on objective tests; test anxiety; more tips on studying; time management; using the library; and improving memory. (RS)

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BETTER STUDY SKILLS for Better Grades and Real Learning!!

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The ICPAC guide to BETTER GRADES AND REAL LEARNING gives you tips about the following topics:

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Read these ideas carefully—then review and review these tips. Review is a key word in studying-so begin here!

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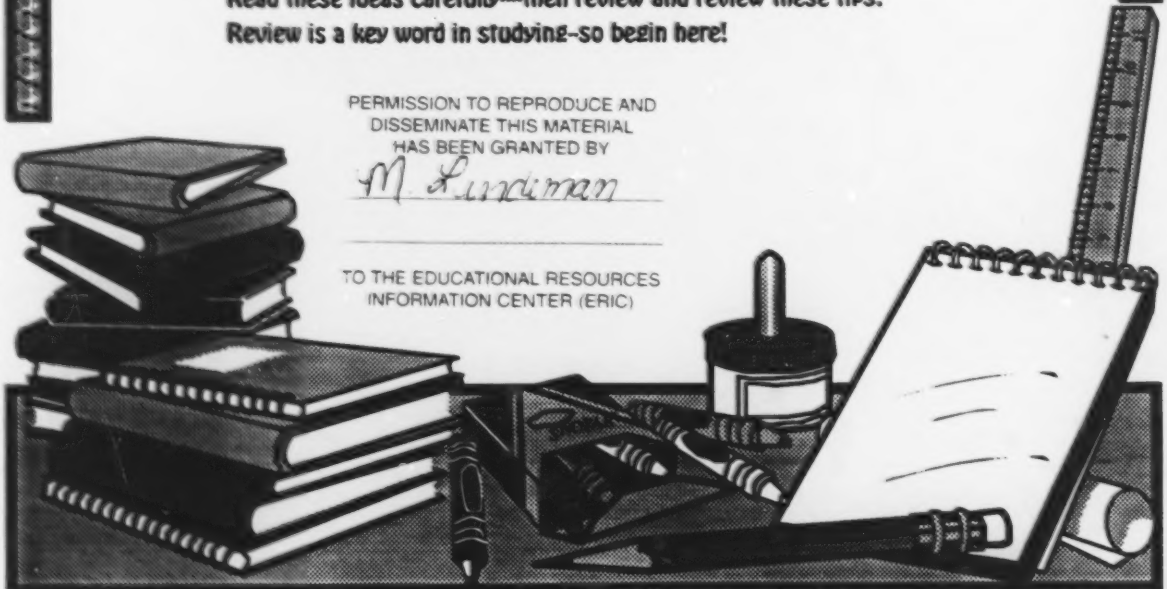

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Better Study Skills for Better Grades... and Real Learning!

Why are grades important?

Good grades are one key to your future. They can open many doors for you--to college, to any future education, to a job that you want. You can control the grades you get and the amount of information you learn. Much of it depends on how hard you work; more depends upon your attitude. The more positive you are, the better you will do. The more you want to learn, the more you will learn. It's up to you!

Here is something to think about. **Set big goals**. Go after big goals, and you will be able to live your life in your own way. Without goals, people are at the mercy of what happens around them.

"Successful people don't wait for the right circumstances to come along. They create their own. Goals put you in charge of yourself, in charge of your future. Focus on these and on the benefits they will bring. Become the boss of your life!"-- from *10 Tips for Top Grades, the Pepsi School challenge Student Guide.*

And remember that while you are in school, some of your goals should be

- to learn as much as you possibly can;
- to earn good grades; and
- to make the most of all of your talents.

How do you get better grades in high school?

People will often tell you that you need to study hard to get good grades. This advice is not really very useful. What does it mean to study hard? How do you study so that your hard work pays off in good grades? It is very important to learn good study skills and then use them.

The payoff...

Better study skills can lead to better grades. They can also improve your actual learning of the material you are studying. Of course, learning the material will help you throughout life. The information you learn now will be with you for many years and help you in many situations. In addition, the information you learn now will not have to be "relearned" later--for other classes, for real life situations, maybe never.

Basic things to think about...

Be ready to learn when you go to school. This means that you should do the following things:

- **Have a positive attitude.** Being positive will always help you do better in any situation.

- **Be an active learner.** Listen carefully. Think about what you are hearing and doing. Concentrate when the action is taking place; you will learn much more easily. Ask questions if you don't understand something. Participate in class. Don't be afraid to give a wrong answer or ask questions. Teachers need to know if their students understand what they are teaching. You will be helping them out and they, in turn, can help you out.

- **Learn how to study for each subject.** Different subjects require different approaches and different mental skills. Once you find a method for learning a subject more easily, keep using that method of learning.

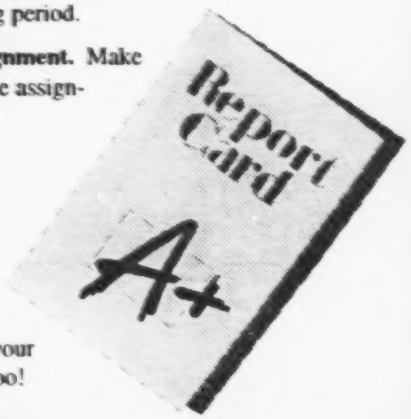
- **Get help from others when you need help.** Study with friends. Ask your parents and neighbors for help with a particular subject or problem; see your teacher. There may also be free tutoring available in your community or school. Your school counselor will be able to guide you to these services if they are available. Never be afraid to use help from all of these sources.

- **If you do badly on an assignment, a test or a paper, see your teacher immediately!** Let him or her know you care about your grades. FIND OUT EXACTLY WHAT YOU DID WRONG AND HOW TO IMPROVE. LEARN FROM YOUR MISTAKES; make mistakes worthwhile! If you really don't understand something, learn it NOW; don't wait until the test or the final exam. Ask for specific suggestions and advice on how to improve your learning for that class.

- **Remember that much of what you learn is a building block for more of the subject matter.** Therefore, if you learn the basics, you will learn the next part easier. That is why it is important to learn and understand each new thing that is taught each day. You cannot "cram" real learning at the last minute.

- **Keep a record of your grades for each class.** Track your grades. Know how you are doing in each class. Understand how each grade you receive will impact your class grade for the grading period.

- **Write down every assignment.** Make certain you understand the assignment and include special notes or information about any special or new assignments. If you are unclear as to exactly what the teacher is asking you to do, ask for clarification. Remember, if you are confused, your classmates probably are too!



Getting ready to study...

- **Have a place where you can study** quietly, with few distractions. Keep your "tools" nearby so that you can find them when you need them. This will include paper, pencils, pens, etc. Make certain you have good lighting so that your eyes won't become strained. If music helps you study, make certain it is low and not distracting.

- **Schedule your study time when it's best for you.** Will you study better before dinner? Or will you do a better job by taking a break when you get home from school? Try to study when you will be at your best. But you must also be flexible about your study time. Look at the amount of homework you have each day. Then, plan

enough time to do it. If you have alot of homework and a school activity, you may have to forgo a favorite TV program or a phone call to a friend. Plan carefully!

• **Take a break now and then from your studying.** A short break will refresh your mind. Take a walk, breathe deeply, and go outside for some fresh air and a change of scene. Your body will also be refreshed. Studies have shown that your physical well-being affects your mental well-being. This break will relax both your mind and refresh you--to be ready to tackle your homework again.

• **Plan your homework.** You may find it more rewarding to do the shorter or easier assignments first. With those done, you will feel rewarded or be able to concentrate better on longer or harder assignments. You won't be worrying about the others.

However, some people like to do the harder or longer ones first; they have more energy to tackle them. Others will work on the harder or longer ones for a while; they will then put them aside and concentrate on doing the others. After they take a "mental break" by completing the others, they are ready to go back to the first ones they started. Find out what works the best for you, and plan on doing homework that way.

• **Do all of your homework neatly**. Even if you are only taking notes or doing an assignment which you won't hand in to the teacher, do it neatly. When you review this work for exams, it will be easier to learn it. It will also help you develop good habits which will carry over into other parts of your life--including a future job. Neatness is valued and rewarded.

• **Give complete answers on homework assignments.** For instance, if you have questions to answer for history, give detailed answers. Don't give brief, one sentence answers which are incomplete. These will not really help you learn the material. And they will not earn as good a grade as those papers which have more complete ones. Teachers are looking for effort. In addition, by writing complete answers on the homework assignments, you will be able to give better answers on tests. And you will again be developing a good habit.

• **Develop critical thinking skills.** What do we mean by "critical thinking skills?" These skills mean that you are able to listen to or read information and make good judgements about it. You will ask yourself questions such as:

Does this make sense in relation to other information I have?
Is this always true? or *When is this true and when is it false?*
How will this be affected by changes? What will affect it?
Is this just someone's opinion or is it backed up by facts? Are the "facts" being quoted really facts or are they words taken out of context and put together to appear as facts?
Are these really facts or has the presenter used careful wording and statistics to make it look like a fact?
Is the presenter using emotional words to make me feel a certain way or are the facts really making me feel this way?

By learning to question, compare, contrast, and analyze information, you will be learning how to make decisions. You will

be able to solve problems. These are all very important skills that you will need for your future.

Now that you have completed your assignments for the next day, you can go to bed and get a good nights' sleep. Being refreshed for the next day is important. Being tired cuts down on your learning ability. Your mind will be "fuzzy" if you are too tired. And you will not perform well in class.

If you have an exam or quiz the next morning, you might want to get up early to review before you go to school. A quick review with a fresh mind may make some information clearer or a fact stick in your mind--just for that test.

Read on in this booklet to learn more about how you can master information...and be prepared to reach your goals.

You can learn how to get the most from school. Take the time now to learn the habit of using good study skills. New habits can be hard to learn, but this habit can pay you back in ways that will make you very glad that you did it!

Special Note: Studies have shown that the proper nutrition--FOOD-can also help your learning. DON'T SKIP BREAKFAST! Your body has received no nutrients for 8 or more hours when you wake up in the morning. It needs protein and carbohydrates to function properly. This is especially true for your mental functioning. So, breakfast is an important aid in how well you will do in school. EAT BREAKFAST!

Some material for this section comes from *10 Tips for Top Grades, the Pepsi School Challenge Student Guide,* developed for the CSFA Scholarshop.

Listening in the Classroom

Why are good listening skills important?

Have you ever listened to someone—a teacher, a friend, a reporter—and realized later that you didn't remember anything the person said? You heard the words, but didn't listen to what was said.

Hearing and listening are different. Hearing is something your ears do. Listening involves your ears and your mind. Good listening skills help you understand and remember what is being said.

You gain a lot if you listen well in the classroom. Good listeners tend to get better grades. Good grades make learning more fun. Good listeners think about what is being said. They understand, learn, and remember information longer.

People are not born with good listening skills—these skills are learned. Good listeners have learned how to listen. You can learn how, too.

How can I improve my listening skills?

Here are some ways to improve your listening habits.

Go to class ready to learn.
Don't get distracted — sit in the front of the room. Pay attention to the speaker. Now is not the right time to think about yesterday's exam or tomorrow's after-school activities. Does the teacher pass out an outline for the lecture? Follow it. Think about why you are listening. Be alert.

Listen for the main ideas.
• What is the speaker's purpose? What is the speaker's message? What are the main points of the lecture?

• How has the speaker organized the lecture? Is the speaker guiding you through a period of time? Giving you points from the most important to least important? From least important to most important? From cause to effect?

• How are the ideas organized? How does one idea lead to another? Listen for words and phrases that tell you how the speaker has organized the talk. Some of the phrases you should listen for are: "The four most important writers...," "On the other hand...," "Now let's turn our attention to...," "Finally...," or "In summary...." These key phrases help you follow the pattern of the lecture and the sequence of ideas.

Be an active listener
• Ask yourself questions during the lecture.

• Summarize the main points of the lecture during pauses. This helps you stay alert and follow the pattern of the lecture.

• Draw conclusions for yourself.

• Separate fact from opinion, old material from new material, main ideas from minor points. What are the main ideas? What are the facts and examples that illustrate these main ideas? Make sure you can tell the difference.

• Relate ideas to real life. Relate new ideas to what you already know. This helps the new ideas make sense to you. It also makes them easier to remember.

Approach the lecture with an open mind
• Focus on what the speaker is saying. Ten bad listening habits are listed on the next page . Do you have any of these bad habits? Now is the time to become a good listener and make learning easier.

See the tips on the next page to help you master listening skills.

Poor Listening Habits and How to Change Them

Poor Listening Habits	Poor Listeners...	Good Listeners...
Criticizing a speaker	criticize the speaker's voice, clothes, or looks. Therefore, they decide that the speaker won't say anything important.	realize that a lecture is not a popularity contest. Good listeners look for the ideas being presented, not for things to criticize.
Finding fault with the speaker	become so involved in disagreeing with something the speaker states that they stop listening to the remainder of the lecture	listen with the mind, not the emotions. Good listeners jot down something they disagree with to ask the speaker later, then go on listening.
Allowing yourself to be distracted	use little distractions—someone coughing, a pencil dropping, the door opening and closing—as an excuse to stop listening.	filter out distractions and concentrate on what the speaker is saying.
Faking attention	look at the speaker but don't listen. They expect to get the material from the textbook later.	understand that speakers talk about what they think is most important. Good listeners know that a good lecture may not contain the same information as the textbook.
Forcing every lecture into one format	outline the lecture in detail. The listener is so concerned with organization that he misses the content.	adjust their style of note-taking to the speaker's topic and method of organization.
Listening only for facts	only want the facts. They consider everything l else to be only the speaker's opinion.	want to see how the facts and examples support the speaker's ideas and arguments. Good listeners know that facts are important, because they support ideas.
Listening to only the easy material	think it is too difficult to follow the speaker's complicated ideas and logic. A poor listener wants entertainment, not education.	want to learn something new and try to understand the speaker's point. A good listener is not afraid of difficult, technical, or complicated ideas.
Calling a subject boring	decide a lecture is going to be dull and "turn out" the speaker.	listen closely for information that can be important and useful, even when a lecture is dull.
Overreacting to "push button" emotional words	get upset at words which trigger certain emotions—words such as communist, income tax, Hitler or abortion. Emotion begins and listening ends.	hear these same words. When they do, they listen very carefully. A good listener tries to understand the speaker's point of view.
Wasting thought speed	move along lazily with the speaker even though thinking is faster than speaking. A poor listener daydreams and falls behind.	use any extra time or pauses in the lecture to reflect on the speaker's message. They think about what the speaker is saying, summarize the main points, and think about the next points.

GETTING THE MOST FROM YOUR TEXTBOOKS

Why are textbooks important?

You go to class. You take good notes. Why do you need a textbook? Textbooks and classroom lectures talk about the same thing, don't they? No. Lectures are often the teacher's view of the material being covered. Textbooks sometimes give more in-depth information and examples. They may also give different views than those the teacher presents. A textbook is not a substitute for lectures. Use both of them to learn the most about a subject.

How can I get the most out of my textbooks?

Follow these simple steps before you read, while you read, and after you read to get the most from your textbooks.

Before you read...

- Figure out how much time you will need to read the section. Plan to spend that much time to finish reading.
- Find a quiet place to read, without distractions.
- Focus on what you are going to read. Think about what you already know about the topic.
- Look at the chapter briefly before you start reading. This is called previewing. This simple step only takes a few minutes but is well worth it.

Preview...

- Read the title of the chapter or section. From the title, think about what might be in the chapter. Think about what you already know about the subject.
- Scan the chapter, reading the headings and subheadings. These are sign posts. They guide you. They tell what topics will be covered and how they are organized.
- Study the illustrations. Don't skip pictures, tables, charts, maps, and graphs. Study them.
- Read the first paragraph of each section. This is called the introductory paragraph. The author introduces the topic in the first paragraph. This paragraph may tell you about the points covered in the section. It may tell why the topic is important or how it will be presented.
- Read the final paragraph of each section. Skip to the end; read the closing paragraph. The author may summarize the argument, restate the main points, or add some final thoughts on the topic.
- Now skim through the chapter quickly. Look at the headings. How is the chapter organized? It may be divided into main points, time periods, or steps that have to be followed. Understanding how the material is organized will help you as you read.

Previewing will only take you a few minutes. These few minutes will help you understand the topic much better when you start to read. Don't skip the preview step. You will get much more from your reading if you preview it.

While you read

- Break the chapter into sections. Use the sub headings to guide you as you do this.
- Turn each heading and subheading into a question. Answer the question as you read. For example, if a heading reads 'The Industrial Revolution,' ask yourself: *What was the Industrial Revolution? When did the Industrial Revolution take place? Why was it important?*
- When you get to the end of each section, make a mental summary of it. Mentally change the wording of the summary until it is very clear. Then write the summary in your notes.
- As you make notes, use your own words. Tips for taking notes from your textbook can be found on the next page.
- Have a mental conversation with the author. Ask the author questions as you go along. As you finish each section, answer those questions. If you can't answer them, write them down to ask a classmate or the teacher later.

After you read

- Review the subsections, sections, and chapter. Think about what you've read.
- Relate what you've read to the class lectures or other sources of information.
- Are there questions given in your textbook? Answer them. If not, make up some questions.
- Is there something in the reading that you don't understand? Write it down and ask about it in

class. Do you have a comment about the reading? Write it down and bring it up during the next class.

• Review the material often. Short, quick reviews will help you remember and understand the information better. This will also help you prepare for exams. Do you want to remember more? Review often and regularly. If you study for tests by 'cramming' at the last minute, you will prob ably be too confused and tired to do well.

How do I take notes from my textbook?

You might want to use the Cornell note-taking system, which is described on page 9 of this booklet. Here are some general guidelines:

• Finish reading a section or chapter before you take any notes.

• Be very selective. Only take notes on important information. Pay attention to
—lists of things.
—ideas the author says are "very important" or "most significant."
—points which summarize the chapter title, headings, or subheadings.

• Make your notes short, but include enough information to make the idea clear. Use your own words. You'll remember your own words much better than someone else's.

How do you organize your notes?

You don't need a formal outline. You do need to recognize two patterns in your reading.

1. Learn to recognize the parts in a paragraph. Organize your notes according to this pattern.
• The topic sentence explains the main idea of the paragraph. It is usually the first sentence in the paragraph.
• Supporting sentences give facts, details, and examples that explain the main ideas.
• The concluding sentence ties paragraphs together.. It may do this by stating conclusions based on information in the paragraph. It may restate the topic sentence or summarize the paragraph.
• Sometimes a section can have topic paragraphs, supporting paragraphs and concluding paragraphs.

2. Learn to recognize how the author organized the material. The author may organize in different ways. Some types are listed here
• **Time**—Events are given in the order they occur. Phrases such as "in the early years," "five years later," and "during the next two years" may be used.
• **Process**—Steps or events are given in the order in which the process takes place. Words such as "first," "next," "then," and "finally" may be used.
• **Place or Space**—This organization discusses things in terms of their location or their place in relation to other things. For example, things may be explained "from left to right," "high to low," or "large to small."
•**Importance**—Items can be listed from most important to least important, or from least important to most important.
• **Cause and Effect**—The author may describe events or problems first, then explain how or why they happened. Or, the author may describe a situation, then explain what happened because of this situation. Why something happened is the cause, and what happened is the effect.
• **Compare and Contrast**—Items may be discussed by looking at how they are similar or different. Compare means to look at similarities. Contrast means to look at differences. Sometimes teachers will ask you to 'compare' two things. They may want you to discuss similarities. Or, they may want you to discuss both similarities and differences. Make sure you know what the teacher really wants you to do.

As you read, make up your own categories to help you organize the facts and ideas in the text. It is easier to memorize information that you feel makes sense and is in order. Organize the material whatever way works best for you. There are lots of ways to organize things. You may decide to organize information by the main points and the supporting details, the relationships between the main ideas, the central characters, by the important dates, or by some other way that seems right for that information

"Getting the Most from Your Textbooks" was adapted from material prepared by the Learning Skills Center, Indiana University, Bloomington, Indiana 47405

Information for some of the study tips in this booklet was taken from books written by Walter Pauk, an authority on study skills. Some of his books are listed below. You may want to check with your school or public library for these publications.

How to Study in College
How to Take Tests
Learning Skills
Perceiving Structure: How are the ideas organized?
Perceiving the Author's Intent: What is the author's intent?
Reading between the Lines: Drawing correct inferences
Reading for Facts
Reading for Ideas
Recognizing Points of View: Whose mind, where's he standing?
Recognizing Traits of Character: How does the author build his characters?
Six-way Paragraphs: 100 passages for developing the six essential categories of comprehension
Study Skills for Community and Junior College
Successful Scholarship
Understanding Figurative Language: What effect did the author intend?
Using the Signal Words: Making transitional words work for you
Vocabulary in Context: Getting the precise meaning

Taking Notes...a key to good learning

Why is it important to take notes?

You forget almost half of what you hear or read within an hour. One way to capture information so that you won't forget it is to take notes. Then, new information can be reviewed and remembered, not forgotten.

How do I take notes during a classroom lecture?

Take notes from a lecture in three steps.

1. Prepare before the lecture.
2. Listen carefully; take notes during the lecture.
3. Use your notes to study after the lecture.

Before the lecture begins

- Read the textbook assignment.
- Arrive before the lecture and get a seat where you can see and hear the teacher.
- Use a loose-leaf notebook. This way you can keep your notes, handouts, maps, photocopies, and past tests in order and together.
- Keep notes from different classes in separate loose-leaf notebooks.
- Review the notes from the last lecture to refresh your memory.
- Don't sit where your friends will distract you during class.

During the lecture

- Listen—Think—Write
- Ask questions to make sure you understand what is being said.
- Take notes in a way that you find comfortable. One way to take and review notes is described on the next page.
- Include major ideas, details and examples.
- Skip lines to show where one idea ends and a new one begins.
- Number and date each page of your notes.
- Write quickly but clearly. Cross out mistakes.
- Use abbreviations, but only ones that you will remember easily.
- Pay attention. Watch for clues that tell you how the lecture is organized and where it is going.

After the lecture

- Right after the lecture, review it in your head. If you don't understand something, write down your question. Ask the teacher to explain it before the next class.
- Read your notes as soon as possible after the lecture. The longer you wait, the less the notes may mean to you later. Add information or a clearer sentence to make certain you will under stand your notes when you review. Make sure you wrote down ALL the points the teacher made.
- Compare your notes with your friends' notes. Check them for completeness and for accuracy.

How can I take better notes?

Here are some tips which you can turn into habits.

- Write your notes in short sentences. For example, write "Jean home 3PM," instead of "Jean will be home at 3:00 PM." Leave out unnecessary words and phrases. Use symbols, if possible.
- Write clearly. It is hard to read bad handwriting, even if it is your own. Your notes aren't useful if you can't read them.
- Watch for signal words and key phrases. These are clues that tell you to pay special attention to certain ideas. They help you understand how a lecture is organized. Here are some **signal words** and **key phrases**.

--the five main causes...This tells you to get ready for a list of five things.
--before, after, prior, meanwhile...These describe a time relationship. They help you understand what came first, second, and last.
--on the other hand...This signals a different point of view or a different way to look at the information.
--for example, for instance...These signal an example that will illustrate the point and make it clearer.
--more importantly, above all, the most significant thing...These tell you that the idea is very important. Write it down.
--in other words, in essence, briefly...These tell you that a complex idea is about to be stated more simply.
--in a nutshell, in conclusion, to sum up...These signal a summary of the lecture or of the points covered.

There are several other ways that the teacher will give you clues to important points. **Be alert for**

- points that are repeated.
- long comments on a point.
- superlatives (words such as most, least, best, worst, smallest, largest).
- changes in the speaker's volume.
- changes in the rate at which the speaker talks.
- a list of points such as, "The three most important dates to remember are... ."
- spelling words and giving directions.
- writing information on the chalkboard.

What is the best way to take notes?

There is no best way to take notes, but some ways are better than others. One good way is the Cornell Note-Taking System. But, before we explain the Cornell system, let us review the do's and don't of notetaking in class:

DOs and DON'Ts

DO

- Before the lecture, look over your notes from the last class to refresh your memory.
- Sit in the front to see and hear better. Stay alert.
- Make your notes as complete as possible so that you will understand them later. Write clearly, not in scribbles.
- Try to understand the ideas (the "big picture") as well as the facts and details.
- Try to figure out how the lecture is organized.
- Use a large, loose-leaf binder. Keep separate loose-leaf binders for each class.
- Begin taking notes immediately. This helps you pay attention.

DON'T

- Don't sit near your friends. You may be distracted.
- Don't use too many abbreviations. You might have trouble understanding them later.
- Don't take notes in shorthand, unless you are good with it. You will still have to translate your shorthand into regular words. That wastes time.
- Don't copy your notes by typing them. Write clearly the first time.

The Cornell Notetaking System

To start, prepare your note paper.

Use an 8 1/2 by 11 inch piece of loose-leaf notebook paper. Draw a line down the sheet 2 1/2 inches from the left-hand edge. End this line 2 inches from the bottom of the paper. If your paper already has a line down the left-hand margin, ignore it. Next, draw a line that is 2 inches up from the bottom of the page. Draw this line completely across the page. (A sample is on the next page.) You may wish to make copies of page 11.

Step 1: Write Notes

In Part A, write your classroom or textbook notes. Use the good note-taking tips described page 8.

Step 2: Replay and Reduce

The first chance you get, replay the lecture in your head. Do it while you walk to a class, in your next study hall, or at home. Ask yourself questions. What was the teacher trying to teach? What was the main point? How does this information fit with what I already know? What did I learn? Later, reread your notes and think about the lecture.

The signal words and key phrases that helped guide you during the lecture also will help you remember your notes. When you review your notes, reduce each idea in them to signal words or key phrases. Write these words or phrases in Part B of your note paper. They will trigger your memory. When you study, they will help you remember the details.

Some people find it easier to remember their notes when they write key questions instead of key words in Part B. Which is better? Try each. Which works best for you?

Step 3: Recite

Say each fact or idea out loud. This is called reciting. It helps you remember better. Cover Part A of your note paper with a blank sheet of paper. You should only see the key words or questions in Part B. Read each key word or question out loud. What fact or idea does the key word relate to? Recite it out loud and in your own words. Then, check to make sure your answer is complete and correct. If you don't know the right answer, study your notes and recite out loud again. Recite until you get all the answers correct. Go through the whole lecture this way.

Do you feel funny reciting out loud? It really is worth doing. Research shows that students who recite out loud remember material much better than those who just reread the same material to themselves. It is also important to use your own words for the answer. Your own words make the material mean more to you than if you memorize an idea in someone else's words.

Step 4: Think and Reflect

Think about the information you have in your notes. This thinking process is called reflecting. Reflect by asking yourself questions about your notes. What are the most important ideas? Why is this information important? How does this relate to what I already know?

Step 5: Review

The word review means to view or look at something again. The best way to prepare for tests is to review your notes often. Make this a habit. Recite and reflect on your notes every day. Short, fast reviews daily can help you understand and remember much more than 'cramming' before a test.

Step 6: Summarize

If you can summarize your notes in your own words, you really understand the facts and ideas in them.

Write your summary in Part C, at the bottom of your note paper. You can

- Summarize each page of notes on that page;
- Summarize the entire lecture on the last page of notes for that lecture; or
- Do both.

Review your summaries when you study for tests.

It is worth learning to take good class notes. Examples are included on the next two pages.

Taking Notes ...a key to good learning was adapted from *How to Study in College* by Walter Pauk, and materials prepared by the Learning Skills Center, Indiana University, Bloomington, Indiana 47405.

Part B: reduce	Class Name:_____
In Part B, write key words	Date:_____
or questions from your notes.	Page Number:_____
	Part A: write notes
Here is an example.	In Part A, write your notes during the lecture or write as you read your textbook.
	Here is an example.
	Metric System
	A. Beginning of Metric System
Where was the metric	**1. Started in France in late 18th century**
system started?	**2. Group of scientists decided on a length; called it a 'meter'**
Where did the word	**3. Meter comes from the Greek word 'Metron'; means a 'measure'**
meter come from?	**B. Adopting the Metric System**
When was the metric	**1. Adopted in France in 1793**
system first adopted?	**2. Many people were against it**
Who changed France	**3. Napoleon changed back to the old system in 1812**
back to the old	**4. Metric system adopted again in 1840; has been used ever since**
system?	**C. Units of Measurement**
	1. The metric system has 7 base units of measurement
What are the 7 base	**a. The 7 base units are**
units of	**1. meter**
measurement?	**2. kilogram**
	3. second
	4. ampere
	5. kelvin
	6. mole
	7. candela

Part C--Summarize. In Part C, summarize the notes that you wrote in Part A.

Here is an example of a summary:

Scientists in France discovered the meter. After many years, the metric system was adopted in France in 1840. Since the meter, they have added 6 more units of measurement: kilogram, second, ampere, kelvin, mole, and candela.

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Part B: reduce	Class Name:_____
In Part B, write key words	Date:_____
or questions from your notes.	Page Number:_____
	Part A: write notes
	In Part A, write your notes during the lecture or write as you read your textbook.

Part C--Summarize. In Part C, summarize the notes that you wrote in Part A.

How to write well

Why should I learn to write well?
Writing is important to many areas of your life. At school, you have to write reports, papers, and exams. You probably write letters to friends and relatives. At a job you may have to write memos and letters. You may buy something that does not work and want to write to the company that made it. Good writing skills can make these things easier. If you have good writing skills, readers are more likely to understand your ideas.

Can I learn to write well?
Good writing can be developed with practice, practice, and more practice. Don't give up if your writing isn't bestseller quality on the first try. You can improve your writing skills by following some simple rules for good writing, and by practicing. The more you write, the better your writing will be.

Basic Writing Skills

No matter what you are writing, you have one main concern. You want the reader to understand what you are trying to say. To do this use good grammar, correct punctuation, and neat presentation. If you need to review your grammar, your teacher can help you find a book to help you. Here are some simple rules that can make your writing clearer and easier to read.

• **Write complete sentences**. A complete sentence is a sentence you can say to someone, and the person will understand it. You have included a subject and a verb; it is a complete thought.

• **Use correct punctuation.** Punctuation doesn't have to be complicated. Use common sense as a guide. Sentences end with a period. Questions end with a question mark. Use exclamation points for exclamations and commands. Commas tell readers when to pause. They separate items in a list, or clauses in a sentence. If you are having trouble with punctuation, your sentence structure may be too complex. Start over and phrase what you want to say more simply.

• **Be clear and brief.** Say exactly what you mean. Think about the words you use. Does each word add something to the sentence? Does each sentence add to your message? If not, take out the unneeded words. Stick to the point. Brief, clear writing lets you make your point faster and keep your reader interested. Brief, clear writing is usually interesting to read.

• **Write in a natural style.** Writing, like conversation, should flow naturally. Don't try to impress your reader with long words or complex sentences. Write so that readers will understand your ideas.

• **Develop an ear for good writing style**. Good writing is more than following rules about grammar and punctuation. To be a good writer, you need to be aware of style. You can develop this awareness for good writing style. How? Read a lot. Read about many different subjects. Read different kinds of writing -- novels and poetry, as well as non-fiction. Practice writing. The more you read and write, the better you will be at it.

• **Revise and rewrite**. Don't expect your first draft to be perfect. Your writing can always be improved. When you write something, put it aside for at least a day. Later, when you read it again, you are likely to have a fresh point of view. You may see ways to improve it. Try to cut out extra words, make sentences shorter, and make your idea clearer. Have other people read what you have written and make suggestions. Revising should be a regular part of your writing process. Revise. Revise. Revise!

• **Neatness counts.** Sloppy handwriting is hard to read. Your readers won't understand the point you want to make if they can't read the words. To make writing papers easier for you to do and easier for the reader to read, learn to use a word processor.

• **Use a word processor** if you have one. It can be frustrating to carefully copy a paper over, using your neatest handwriting, only to discover you left out a word, or want to make a change. You then are left with two choices. You can copy the paper over again, or you can make the change and hand in a messy paper. The advantage of word processing is this: it is easy to make changes. You can send a copy to the printer, read it over, then decide to make a change. It is easy to make the changes you want, then just send it to the printer again. This means that the papers you hand in can be better written. It also means you save a lot of time while you produce better work!

Writing A Paper

Organization and clear sentences are the most important parts of writing a good paper.

How do I start?
You can start by brainstorming. To brainstorm, simply think about your topic and write down all the ideas that come to your mind. Don't decide whether the ideas are good or bad yet. Just write them all down. Then, go through the list and think about each one. Decide which ones to include and which to leave out. Brainstorming is a good way to begin because it helps you be creative.

Organize your ideas...
Before you start to write, organize the ideas that you brainstormed. Which ideas should you keep? Which ideas should you ignore? You can help yourself organize your ideas if you write an outline. The outline can simply be some notes that tell you which ideas to write about first, second, third. It helps you decide how many paragraphs you will need to get your ideas across and what will go into each paragraph. An outline can help you put your ideas in an order that your reader will understand.

Then organize your paper
There is a simple formula you can follow which will make your writing more clear. It says that to get an idea across to your audience, you should "Tell them what you're going to tell them. Tell them. And then tell them what you've told them." You can do this in a short essay that is three to five paragraphs long.

There are three basic parts to a paper:

• **The Introduction**
The first paragraph is called the introductory paragraph. This is where you introduce your topic. You use this first paragraph to tell your reader what the essay will be about—to "tell them what you're going to tell them." Here, you should state clearly the points you are going to make in the essay. This is called the statement of purpose. It explains to the reader why you are writing the paper.

• **The Body**
The next paragraph or paragraphs give the reader the information about your topic. This is called the body of your essay. It is where

you "Tell them." If you are giving the reader your opinion, you will use these paragraphs to give examples that support your argument. If you are describing something, here you will put in the details. If you are explaining a process, this is where you will give the steps to follow.

How do I organize each paragraph?
When you write a paragraph, the first sentence should inform the reader about the subject of the paragraph. The following sentences will include the details you want to include. The last sentence of the paragraph should lead the reader smoothly into the next paragraph. This is called a transition sentence.

Whether you need one paragraph, or three, or ten, depends on the topic you have chosen. It also depends on the amount of detail you want to give the reader. If your process has three steps, you may decide to use three paragraphs, one for each step. If you are describing a time period, such as a century, you may cover the century in one paragraph. Or, you might cover the first half of the century in one paragraph and the second half in another paragraph. Think about how to divide your topic before you begin to write.

• The Conclusion
The final paragraph is your conclusion. Here you will sum up your idea. With a few short sentences. you will "tell them what you told them" in the body of your essay. Make sure that your introduction and conclusion agree. That is, make sure you have done what you said you would do in your statement of purpose. This is also the place to add any insights or final thoughts you have on the topic.

Good writing skills will help you throughout your life. It is worth spending time to develop these skills

IMPROVING YOUR MATH STUDY SKILLS

Why Are Math Study Skills Important?

Mathematical principles and concepts have become a part of almost every area of work. Knowing these principles will help you succeed in both school and work. Math study skills can help you learn the mathematical concepts, skills, and principles so important to other parts of your life. Additionally, math study skills are tools that can serve you well in college, work, and other learning situations

What Can I Do to Develop and Improve My Math Study Skills?

Do Assigned Homework

Teachers assign homework as a way to help you learn and practice topics from class. Doing homework when it is assigned helps you keep up with class topics. Putting homework off often causes problems to pile up. In no time, the problems can seem overwhelming. Doing homework regularly helps you learn class topics as they are taught. Also, do your math homework when you are awake and alert. If math is difficult for you, then do it first, before you get tired.

Talk With Your Teacher
Your teachers can be an excellent resource. In addition to knowing the subject matter thoroughly, your teachers were also successful students. This combination of skills makes them especially well-suited to helping you improve your math study skills. Ask your teachers how they studied when they were in your grade. Their years of teaching may enable them to suggest good ways to study particular topics.

If you talk to your teacher about a particular problem, remember to be as specific as possible. The more you know about your problem areas, the better your teacher can help you. If you aren't able to be very specific, your teacher may be able to help you identify your problem areas. Keeping a math journal (sample at right) can also help you identify your specific problems.

Keep A Math Journal

Since different people learn in different ways, you may find some study skills which work well for you and others which don't. A first step in developing math study skills is figuring out where you have problems. One way to figure this out is to keep a math journal. To start a math journal, use another piece of paper to make notes about problems which are difficult for you as you do your homework. Be as specific as possible in your journal. For instance, instead of writing *I can't do number three*, you might write, *On number three, I could simplify the equation, but I couldn't solve it because I didn't know what to do with the negative numbers.* This may sound like a lot of work, but it will help you understand where you have problems and can be of help when talking to your teacher.

In addition, you may want to make notes about what you learned from or about the assignment, what you do understand, what questions you have, and what you think would help you understand the assignment or problem. These topics can further focus your studying and contact with your teacher.

Math Journal
Date of assignment:_____
Page number:_____
3. I could simplify the equation, but I
couldn't solve it because I didn't
know what to do with the
negative numbers.

Math Homework/Journal
3. $\frac{x-2}{x} = \frac{3}{4}$
$x\left(\frac{x-2}{x}\right) = x\left(\frac{3}{4}\right)$
$x - 2 = \frac{3x}{4}$
$4(x-2) = 4\left(\frac{3x}{4}\right)$
$4(x) - 4(2) = 3X$
$4X - 8 = 3X$
$(+)(-8) \; 4X = 3X - 4X$
$-8 = -1$???

Learn How To Approach Math Problems

It is important to learn how to think about and understand math problems. Sometimes problems are hard to solve because it is hard to understand what is being asked. Try asking yourself the following questions when you get to a difficult math problem:

- Do I need all the information given in the problem? Do I need more information than is given in the problem?
- How is this problem like other problems I have seen? Can I use the same strategy on this problem that I used on another problem?
- If the numbers in the problem were smaller or different (maybe even and not odd numbers) , could I solve it? If so, try putting them in the problem and solving this easier problem first.
- Will drawing a picture or making a chart make it easier to solve this problem?

The better you understand the problem and what it is asking, the better you will be able to solve it.

Review The Material

Another way to improve study skills is to review how new material relates to math you already know. For example, you might look at how geometry relates to algebra. Or you might think about how a new topic within business math relates to an old topic in business math. The more connections you can see between new material and old material, the better you will understand new topics. To help review, you can ask yourself questions like:

- What does this topic have to do with the topic most recently covered in class?
- Is this like anything I've done before?
- How did we get from the last topic to this one?
- What part of this topic is new to me?

Make Make Sure You Understand The Words

Math uses special words to mean specific things. Sometimes, words are used differently in math than in regular language. The result is that some words may be unfamiliar to you. For example, prime, set, and volume, are words that mean something different in math than they usually do. Understanding math terms can help you understand topics. If a word used by your teacher or in a book is unfamiliar, ask your teacher to explain it to you. The best way to understand the vocabulary of math is to put special or new terms into your own words. If you can explain something in your own words, you are more likely to understand it.

Keep At It!

Another good study skill is to simply keep at it. One thing that distinguishes mathematicians, according to Sheila Tobias, author of *Succeed With Math*, is that they continually work at difficult problems. Often, they'll sketch a graph or a chart to help see the problem. They may start solving the problem one way and then try it another way. In math, thinking often involves doing - the more you do, the more likely you are to discover the answer. Your teacher probably does the same thing in class in response to a question - he or she probably writes on the board when explaining a problem. The same kind of activity can work for you, too.

Pay Attention To Your Anxious Feelings

Some people feel like they are simply not able to learn math. They may have been unsuccessful in learning math earlier or may have been told that they could not do math. This is called math anxiety.

Math anxiety has to do with feelings, not abilities. Because someone feels like they cannot do math does not mean that they are unable to do math. The feelings can get in the way, though. For instance, if you see a problem that is difficult for you, you may unknowingly tell yourself that you can't do it. A key to getting over math anxiety is to figure out what is going on. You need to know when your feelings occur before you can manage them.

Similar to the math journal mentioned earlier, you can do an exercise to help identify what your feelings are and when they happen. When doing your homework, draw a line down the middle of your page. On one side, do your problems. On the other side, make notes about your feelings and reactions as you go along. If you feel good because you were able to do a problem, write it down. If you feel nervous because you don't remember how to do something, write it down. This is similar to the math journal, except that this exercise concentrates on your feelings, which are the source of the math anxiety.

Since thinking in math is related to doing, this exercise allows you to keep working even if you are stuck on a problem. By writing about your feelings and reactions to the math problem, your mind is still actively working. After doing this exercise for a period of time, you will learn to tune in to how you handle and solve math problems. You will learn to anticipate problem areas and as you write, ideas for solving the problem will come to you. This is another way of 'keeping at it.'

Try These Tips

- **If you have assigned reading for your homework, DO IT!** You may pick up something from the reading that was not clear in class.
- **Ask questions when you have them.** Ask them in class, ask your teacher, ask friends or family members who might be able to help.
- **Try doing homework in groups.** Sometimes, you can learn a great deal from working through problems with other students. The point here is to do your own homework with the support of thinking problems through with the group, not merely to give or get the answers from others.
- **Give yourself enough time to study.** If math takes more of your time than other homework, then plan for it; don't feel rushed.
- **Review your math homework before class.** This will get you focused for class and will remind you of questions to ask your teacher.

Prepare For Tests

In addition to regularly doing your homework and getting help with areas which you don't understand, you can prepare for math tests by making a 1-2 page summary of the different kinds of problems that will be on the test. When writing the summary, describe each problem type, the steps in solving the problem, and do an example. If you are unclear about definitions and formulas, this is also a good place to write them out. This will help you identify similarities among problems and will focus your thinking on the test.

You also might want to work on problems which weren't assigned as homework. You can work on extra problems in your math book, or you can try your hand at problems in different math books. Working extra problems is good practice for almost any test.

Last, review your summary. Make sure you understand the summary and the types of problem s you have identified.

Take Tests One Step At A Time

Be sure that you have prepared thoroughly by doing and understanding homework, getting help where you need it, and writing a summary. When taking the test, stay calm and do the test one problem at a time. Make a good attempt at each problem. If you are unable to do a problem, put a check mark by it and return to it later. Do your problems in order (jumping around can break your concentration) and when you have come to the end of the test, return to those which you have checked. If you are not able to solve a problem, do as much of it as you can because you may be able to earn partial credit. A key to success in taking a test is knowing that you have prepared well.

"Improving Your Math Study Skills" was adapted from *Succeed With Math*, by Shelia Tobias, and *The Role of Reading Instruction in Mathematics*, by Joan Curry. Information was also provided by the Learning Skills Center, Indiana University, Bloomington, Indiana 47405.

How to do well on essay tests

Why is a test-taking plan important?

You are likely to do well on a test if you plan and prepare for it. This isn't just because you know the material. You will also feel confident. You will be able to put your time and energy into answering the questions. You won't spend your time worrying while you take the test.

Different kinds of tests have different kinds of questions. Prepare yourself for the kinds of questions you will get. If you are well prepared, you are likely to succeed.

Essay Tests

- Essay questions ask you to write answers.
- Essay questions ask students to organize information, evaluate evidence, draw conclusions, compare, contrast.
- Essay questions ask for details and examples.
- Essay tests ask if you know the details and can reason and organize information

How do I study for an essay test?

Take good notes. You can prepare best if you listen well in class, read your textbooks carefully, and make good, readable notes. One good way to take notes and review is the Cornell Note-taking System, which we have already explained on pages 9 and 10.

Think of possible questions. Review your notes and study guide, if you have one, and begin thinking of possible questions. Look for common themes and main ideas. How did the teacher organize the material in the lectures...from most important to least important, by events through time? What points were stressed? What are the main ideas? Are there questions at the end of the section or the chapter? Were questions that did not come from the book given to you by the instructor? These are all possible test questions.

Review your notes for answers. After you have thought of possible test questions, review your notes. Write each question at the top of a sheet of notebook paper. Go through your notes. As you find information that will help you answer a question, write it on that sheet of paper.

Organize the information you wrote down for each question. Look at the main ideas, the details and the examples which support them.

You can organize information many ways. Try organizing it by

- when things happened by date;
- where things happened;
- what was most important compared to least important;
- what caused something to happen;
- making an outline; or
- drawing a diagram, map or chart.

Write complete answers to the questions you prepared. Watch your time. Allow yourself the same length of time as you will have for the test. Then practice this without looking at your notes.

How do I get started on an essay test?

Whenever you begin a test, follow these simple rules.

1. Read the directions carefully and completely.
2. Budget your time. Give the most time to the questions that are worth the most points. Answer the "easy" questions first.
3. If you are not sure of the answer to a question, skip it. Go back to it later.

Steps for answering an essay question.

1. Read the question carefully. Make sure you answer the question you are asked.
2. Organize your thoughts before you start to write.
3. Briefly outline your answer before you begin. You can write an outline on the top or bottom of the page, or in the margins. This will help you stay on track.
4. Write clearly and carefully. Focus on the main points. Have a reason for every sentence you write. Remember, when you take an essay test, it is not just what you know, but how you say it.
5. Write an organized essay. Organize your essay this way. In the first paragraph, the introduction, explain what you will talk about in the essay. In the body of the essay, talk about these points. Include details about each topic. In the conclusion, sum up your main point, clearly stating your belief about the topic.

6. Support your main ideas with details, facts, and examples.
7. Reread your essay. If you want to add something, add it neatly in the margin. If you take out something, cross it out neatly.

How do I know what the teacher wants?

Many essay questions have key words that tell you what kind of answer the teacher wants. Memorize their meaning.

Common Key Words

COMPARE Discuss similarities. Your teacher may also want you to discuss differences.

CONTRAST Discuss differences.

DEFINE Give a clear, short explanation. Show how this idea differs from similar ideas.

DEMONSTRATE Prove a point. Give evidence, examples or facts to back up the conclusion.

DESCRIBE Give a clear, detailed statement.

DISCUSS Analyze and explain in detail.

DIAGRAM/ Draw a picture, map, chart, or table to ILLUSTRATE show the idea.

ILLUSTRATE can also mean to explain something and give examples.

EXPLAIN WHY Give causes. Use examples.

EXPLAIN WHAT Give a definition or description. Use examples.

EXPLAIN HOW Describe how something happens, or how to do something. Use examples.

LIST Give a list of items, Explain each briefly.

RELATE Show how ideas are connected.

STATE Give main ideas briefly.

SUMMARIZE State all ideas briefly.; leave out details.

TRACE Follow something from beginning to end, describing the main points.

How do I know if I did a good job on my answer?

Ask yourself questions to see how well you have answered the question. Use this checklist when you write practice essays. You should be able to answer yes to the questions below. If you can't, make the changes you need.

_____Did you answer the question? Make sure you answered the question you were asked.

_____Does every sentence in the essay add to the answer? Do they all relate to the question you were asked?

_____Are your sentences written clearly and neatly? Make sure that there are no grammar or spelling errors.

_____Did you support ideas with facts, details, examples?

_____Is the essay organized? Is there an introduction and a conclusion? Does the body grow from the introduction? Do details or examples lead to the conclusion?

_____Does your essay show that you understand the material? Do you use examples from both the classroom and the book? From your own experience?

"How to Do Well on an Essay Test" was adapted from material prepared by the Learning Skills Center, Indiana University, Bloomington, Indiana 47405.

How to do well on objective tests

What are objective tests?

- Objective test questions ask you to recognize information
- These questions include multiple choice, fill in the blank, matching, short answer, and true-false.
- These kinds of questions are designed to make you read and think during the test.
- In an objective test, the teacher is looking for your knowledge of details and ability to reason.

How do I study for an objective test?

Begin studying for an objective test the same way you do for an essay test. If you are uncertain about what to do, review page 15, *"How do I study for an essay test?"* As in studying for an essay test, you will study your textbook and notes and think of possible questions.

Some people find it useful to make a study guide by outlining each possible test topic. List and number each point. Highlight a key word or phrase for each. Recite the main points to help learn them. You may feel funny reciting them, but it can help you learn them!

How do I get started on an objective test?

1. Read the directions carefully and completely.
2. Budget your time.
   - Give the most time to the questions that are worth the most points.
   - Answer the 'easy' questions first. This way, you will finish the ones you know before you run out of time. This will also help you feel confident about the test.
3. If you are not sure of the answer to a question, skip it. Go back to it after you finish the 'easy' ones.

How do I answer objective test questions?

Given below are the different types of questions that you usually find on objective tests. In each section we have listed ways to help you choose the correct answer for each type of question.

Multiple Choice Questions

Example: Our lungs breathe in ____c____.
a) dirt b) water c) air d) rocks e) all of these

1. Read the directions carefully. They will tell you whether to mark the right answer, the best answer, or all the correct answers.
2. Read each question carefully. Try to figure out the right answer before you read the choices given.
3. Watch for clues in the choices which may help you eliminate incorrect answers. Clues can be:
   - Absolutes. An absolute is a word such as always, never, every, or none. Choices which contain these words may be incorrect.
   - Grammar clues. Singular subjects require singular verbs, plural subjects require plural verbs.
   - The choice 'ALL OF THE ABOVE' is often correct, especially if at least two of the choices are correct. Be

careful though if all of the questions give this choice!
• Similarities. Look carefully at choices that are very similar. Often, one of them is correct.

True-False Questions

1. Check each part of the sentence. If any part of the sentence is false, the entire statement is false.

> Example: Healthy newborn babies weigh about 7 pounds, are about 21" long, usually cry at birth, and are bald. *True* O *False* O

Hint: This is false, since some babies are born with hair.

2. Statements that contain a qualifier may be true. A qualifier is a word such as some, most, many, usually.

> Example: Most candies contain sugar. *True* O *False* O

3. Statements that contain absolutes are often false. Absolutes are words such as all, none, always, never, and every.

> Example: All candies contain sugar. *True* O *False* O

Hint: Some candies are made with honey or maple syrup.

Short Answer and Fill in the Blank

You fill in the answer. There are no choices given.

> Example: Our lungs breathe in *air*.

1. Read the statement carefully. Information in the statement may help trigger your memory.
2. Pay attention to grammar clues.
   • Plural subjects need plural verbs. Singular subjects need singular verbs.

> Example: *Ants* join most picnics although they are almost never invited.

   • The word 'an' shows that the missing word starts with a vowel or the letter 'h'.

> Example: An *owl* hunts at night and sounds as though it cries "Hoo, hoo."

Matching

> Example: The words on the left go with the phrases on the right. On the line in front of each phrase, write the letter of the word that matches that phrase.
>
> a: lungs ___*b*___ pumps blood
> b. heart ___*c*___ digests food
> c. stomach ___*a*___ breathe in air

1. Read each list all the way through before you begin to match.
2. The first time through, mark only those answers you know well.
3. Keep working through the list. Eliminate possibilities each time.
4. Grammar clues can tell you some of the answers. Singular subjects require singular verbs. Plural subjects require plural verbs. In the example, "lungs" is the only plural word. The phrase "breathe in air" is the only plural phrase. The word "lungs" has to go with the phrase "breathe in air."

Test Anxiety

I get nervous at the thought of a test. What can I do?
Taking a test makes some students tense and anxious. A little bit of anxiety is useful. It helps you focus your attention and do well. Too much anxiety, however, is not helpful. Some students score lower on a test because they are nervous. Some become physically upset—sweating or having difficulty breathing. Some react emotionally and feel stupid or like failures.

If you have test anxiety, don't waste your time worrying about it. This is self-defeating. It won't help you do better on tests. Instead, keep your anxiety at a level that will help you, not hurt you, on the test.

Here are some suggestions for how to control your anxiety.

1. Allow yourself plenty of time to get to the test, find a seat, and get settled. Don't be in a rush. This may make you anxious during the test.

2. Have a plan for the test. Plan your test-taking ahead of time. The suggestions given here can help you plan for the types of questions you will have on the test. You will feel confident about the test if you have a plan.

3. Take good care of yourself before the test.
   Good physical care includes the following:
   • Get a good night's rest before the test.
   • Eat to do well on the test. Have a protein-filled dinner the night before the test, and a meal high in complex carbohydrates such as pasta before the test. Caffeine and sugar filled snacks before and during the test can increase your anxiety. Eat fruit instead.
   Good emotional care includes the following:
   • Relax before the test. Study carefully, ahead of time. If you 'cram' at the last minute, you're likely to end up very tense.
   • Avoid your significant other before the test. You may be frazzled and upset. You two could have a disagreement, which will not help you concentrate on the test!

4. Don't talk to others before the test. Anxiety is easy to spread. If you are not anxious already, you might become so.

5. Relax during the test. Some tension is normal and can help you focus and do well, so accept it. These exercises can help keep the tension at an acceptable level. Take several slow, deep breaths. Exhale as you let your shoulders drop slowly. Here's an exercise that may help you relax during the test. Turn your head slowly in a circle — right ear to right shoulder, head back, left ear to left shoulder, head forward. Try it.

Some students use test anxiety as an excuse to not prepare. They feel that because they will worry during tests anyway, why study? This is not a helpful way to think. After all, if you prepare well, you should be able to pay attention to the test and do well.

Is test anxiety a problem that you can't seem to overcome? Talk to someone about it. Speak to your teachers or guidance counselors. They may be able to help you or refer you to someone else who can.

MORE TIPS FOR STUDYING AND ACHIEVING YOUR POTENTIAL...

What is the problem?

Are you having problems with a particular subject or class in school? Does it give you a headache or an empty feeling in the pit of your stomach? Do you feel upset, angry, or afraid when you go to that class? Or do you feel helpless or frustrated? Maybe you work hard, but you don't seem to be getting anywhere.

You are not alone. Many students want to do better in certain subjects but feel stuck.

Why do you feel this way? Why does this only happen in certain courses? Your problems may be caused by your

- Interest level,
- Anxiety level, and/or
- Approach.

Interest level-- Let's say you're having problems in world history. You just don't want to pick up the textbook and do the assigned reading. You think, "Who cares about all that stuff that happened way back then? I just can't get into it." A person with this opinion of world history has a **LOW interest level** in the subject. Someone with a low interest level doesn't usually get good grades in that subject.

Anxiety level--When you to walk into algebra class, you get upset. You go to class to take a test, and your mind goes completely blank. You just know you won't do well. Your feelings keep you from succeeding in the class.

Approach-- You know you're interested in biology, and you're not anxious about it. But you're still just not getting it. Why? Maybe you're not attacking the subject from the best direction. You might need help with your study skills. Maybe some ideas you have are getting in your way. Maybe your style of learning does not match how your teacher chooses to teach.

We will discuss here how you might try approaching the subjects you are having trouble with. We can't solve all your problems, but we can give some ideas about how you might do better in your problem subjects.

What to do about it--

For low interest level--

The more interested you are in a subject, the more likely you are to succeed in that subject. It's always a challenge to do well in a class that you don't like. Here are some ideas that might help.

Motivate yourself Try talking to yourself and saying positive things about the class, like:

- I am doing better in this class every day.
- I need this class to graduate. I will do the best I can.
- The schools that interest me will be looking at my grade in this class; I need good grades to be accepted.
- I can do well in this class even if my main interests are somewhere else.
- If I learn it now, I won't have to relearn it later.
- I may have to study this subject again in college, and it will be easier if I learn the basics now.

Keep positive thoughts flowing, and you probably will do better.

Reward yourself when you do well. Try bribing yourself. For every week that you turn in all assignments, you could treat yourself to something special. Then, after accomplishing this goal, choose a higher goal for the class. For instance, every week that you turn in all assignments and maintain a desired grade (B?, A?) average, treat yourself to an even larger reward. The exact reward, of course, will depend on you. It could be a small food treat, a movie, or time with a friend. You might even try negotiating with a parent for rewards in classes that are particularly challenging.

The way to overcome a low interest level in a class is up to you. But it can be done! Be creative. Think about ways to motivate yourself by focusing on the positive and treating yourself well. Then, try out your ideas to see what really works best for you.

Anxiety--The best way to know whether you are afraid or anxious about a particular subject is to pay attention to yourself. How do you feel when you go into that class? Do you feel like you'd rather be almost anyplace else? Do you perspire, have a headache, a stomachache, or breathe differently? Also, you might be thinking negative things such as:

"I really hate this class."
"I won't ever do well in this class."
"I think it's ridiculous that I have to take this class."
"I won't use this stuff — ever."
"I just know I'm going to fail this class."

These are all signs of anxiety.

So, what do you do if you think your problem is subject anxiety? One thing you can do is learn to be relaxed. It takes practice to learn how to do this. You will need to practice changing the way you feel and the way you think about the class.

The first step is to picture a time or a place that you are really comfortable — when you are at your best. With practice, you can feel the same way in your problem class. Here's what you can try:

1. Breathe deeply and imagine yourself in a relaxing scene (like at the beach or on vacation).
2. When you are really feeling good, picture yourself in a class that you really like — and do well in. You should continue to feel relaxed.
3. Now, picture yourself in your problem class. Continue to breathe deeply and imagine the relaxing scene. Focus on

staying relaxed. Your anxiety level should get better and better as you practice. The point is that if you can do this in your imagination, you can do it for real. Whenever you think about being in that class, first breathe deeply and think of your peaceful scene. Whenever you go to the class, do it again. Whenever you're in class and start feeling terrible (like when you're taking a test), breathe deeply and picture your peaceful scene again.

Another way to relieve subject anxiety is change the way you think about the class. You have to "reprogram" the way your mind works. First of all, find something positive about the class. Do you have a good friend in there? Are there ever any enjoyable projects or movies or something which you enjoyed? By looking for the positive, you will lessen the negative.

In addition, whenever you think negative thoughts about a class, think positive thoughts instead. For example,

> Replace *"I really hate this class"* with *"I am learning to like this class."*
> Replace *"I think it's ridiculous that I have to take this class."* with *"This class can probably help me in the long run."*

You can have control over how you think and feel. And you will find that having a positive attitude toward things, all things, will make you succeed at them much more easily.

How can I approach my problem subject differently?

It will help if you start feeling better about the class. It can also help if you learn new ways of studying the subject. Here are some study tips for reading, writing, math, science, social studies.

Reading--Good reading skills can help you in all of your classes. If your reading skills are lacking in some way, you could find yourself in trouble very quickly. Generally, the better you understand what you read — and retain what you read — the better you will do in your classes. One way to improve your reading comprehension is called SQ3R (Survey, Question, Read, Recite, Review). There are five steps to this method.

Step 1. **Survey--**Briefly look over the material to become familiar with it. Get a feel for the main topics. One good way to survey a book is to read all chapter titles and summaries.

Step 2. **Question--**From headings and subheadings in the reading material, make up (and write down) questions to yourself about the subject. Later, when you read the material, see if you can answer your questions. You can also ask yourself questions about the content, such as the writer's goals, how the material is related to what you already know, and what experiences you may have had that relate to the material. These kinds of questions can help make the subject mean more to you.

Step 3. **Read--**Now read the material slowly and carefully. Give special attention to answering the questions you asked in Step 2. Take care to connect what you are reading about the subject to what you already know.

Step 4. **Recite--**Once you have read a section of the material, stop and answer the questions raised in Step 2. This helps you check on how well you understand what you have read, and helps the content mean more to you. It also helps you remember more of what you read.

Step 5. **Review** --Focus on going over the material one more time. Pay special attention to the questions in Step 2 that were the most difficult for you to answer.

No matter how good your reading skills are, they can probably be improved by using this method. Give it a try! If you'd like more information about SQ3R, ask an English or Resource Room teacher. Help is always available for your problems. Mostly what it takes is learning what your problem areas are and then acting on getting some help. Sometimes it is hard to ask for help, but it's often the most aware and successful people who look for help when they really need it.

Your school counselor or favorite teacher will be able to help you out with these ideas if you find them strange and unusual. Ask them for help. They should be able to help you out with these classes that are giving you trouble.

Take time for writing an essay, doing a major project

One of the worst study habits that many students have is that of rushing to do an assignment. There are times when an assignment can be done hurriedly. These are really few and far between. There are also assignments which need a regular amount of time, almost daily.

Then, there are the assignments which need to be started several days in advance of due dates--and in fact, maybe even weeks before!

One of these assignments is a written paper. Writing takes thought. Very, very few people are able to sit down and write a good paper on the first try. Good writers edit and revise and edit and revise their papers--several times. In addition, they let the paper "sit" for a while before final revisions. What is the purpose of this time lapse? It allows the writer to come back to the paper with a fresher ability to see the errors and to see the clarity of the thought. In other words, when you step away from your writing for a while, you will come back to it with a fresher mind. You will not be so deep into what you have written, and you will be able to see where a reader might not understand what you have written. **Taking time to write, then pausing for a day or so, is one of the most beneficial steps you can take to create a good paper.**

More tips for math--

Realize that **you use math every day**. When you see a sign for 20% off an item you want to buy, you are really looking at an algebra problem; ie: $4.00 - .20 (%) = x. Go ahead and figure out your final cost; don't wait for the clerk to do it. This way, you will be practicing math in your everyday life.

Estimate an answer. Then when you get your actual answer, compare the two. Are they close? If not, then you know that there is a major error somewhere--either in your reasoning or in your actual arithmetic steps. By estimating first, you can check yourself and find errors sooner.

Learn to understand math. Don't memorize. Understanding what is really happening within a math problem is the real key to doing well in math. If you memorize a formula and don't understand it, you will not be building a foundation for future math classes and problems. You will be constantly trying to memorize more and more complicated equations and solutions. This will lead to frustration and make math very difficult.

Advice from our Hoosier students--

Duane: **Try to do well in high school classes. Your grades affect your SAT tests, your financial aid package. And studying can help you test out of classes at college. Don't blow it off. A lot of the info you learn in high school, believe it or not, will make your first year classes easier. A lot of it is recall. Develop your writing skills. I do 10 papers a semester. All I do is write!!**

Duane Lorey
ISU
Dubois
Sophomore
Major: Social Science Education

Adrian Dunson
Rose-Hulman
Indianapolis
Sophomore
Major: Mechanical Engineering

Adrian: Take as much science and math as you can. Don't just memorize the equation for the particular test and the particular day. Find out exactly how they (equations) work. Your freshman year will be significantly more productive if you've done this. Also, eliminate your procrastination. You will have more things to do--like laundry, in college. So, work on the procrastination.

Other tips for studying---

--Flash cards--Use flash cards to help review items for a class. Flash cards can be used for vocabulary in English and a foreign language. They can also be used to review math equations, theories and equations for chemistry, facts for history and social studies, and quotes for a lit class. You can use notecards for this purpose.

--Tape recorder--Use a tape recorder, especially in a foreign language class. You can then listen to the proper pronunciation at home; you can review and practice the proper word and sentence sounds. You will also be able to train yourself to listen to the language. Therefore, you will be able to understand it better in class and in real life.

You can also record a teacher's lecture, a class speech, or any other thing which you think might be appropriate. You can then review it at home.

---Recite or read aloud--It may sound strange to read or recite your notes or what you are trying to learn outloud. However, some students have found this to be very helpful. Try it! You may find that it helps the information stay with you.

--Study a subject every day--Even if you don't have any homework or assignments for a class, review the subject every school day and once on week-ends. Even 15 minutes to half an hour can help reinforce your understanding of the subject.

--Take book and lecture notes on the same page--Divide your notebook paper into two columns. In one column, take book notes. Take lecture notes about a topic right next to the same topic book notes. Then you can compare the two. One may help you learn the other.

--Learn how to use computers--Take a typing class or keyboarding class in high school. Also learn how to use computers so that you will be prepared to use them in college and on a future job. You will find that they make your work much easier. And you will have a much needed skill for the workforce.

--Test yourself--Before a you take a test, create a test for you to take. Think of possible questions that might be on an essay test. Use some of the problems in the math book which were not assigned or use questions from another text book about the same subject. Answer the questions. You will soon find out how much you really know.

--Margin notes--Put a question mark in the margin of your notes by information you are unsure of. It will remind you to see your teacher for more explanation..

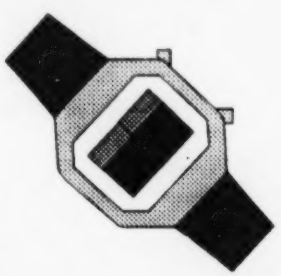
How to manage your time

Does this sound familiar?

- Your friends are going to a movie. You want to go but you have homework to finish.
- It's the night before a big test. You have just started to study. You have many hours of reading ahead.

Does it seem like you never have enough time and wonder where all your time goes? Do you know someone who usually gets work done before it is due? Maybe they use their time well. You can learn how to spend your time wisely, too. These steps may help you find that you have more time than you think!

How are you really spending your time?



For one week write down how you spend ALL your time — sleeping, eating, doing homework, watching television, talking to friends. Be honest. Don't change any of your normal habits during this week. At the end of the week, ask yourself questions about how you use your time.

- Are you happy with how you spend your time?
- How much time do you spend on unnecessay things, such as watching TV or going to the mall?
- Is there wasted time? How much time during the week did you spend on needless errands or daydreaming? If you spent two hours at your desk one night, how much of that time did you really use to study?
- Did you have enough time for homework and school activities? Do you need to schedule more time for these?

Plan by the semester--

• Write down major due dates on your calendar. Keep your calendar where you will see and use it often.

• Estimate how long it will take to do each project. Mark the dates to start each project on your calendar. Allow yourself more time than you think you will really need.

• Set short-term and long-term goals.

—Short-term goals may be *Read chapter 7 by Thursday,* or *Decide on a topic for history paper by the 1st.*

—Long-term goals may be *Have term paper done by April 8th,* or *Finish reading textbook by May 20th.*

Plan small rewards for yourself when you reach these goals. You might call a friend or go to a movie.

• Make a master schedule. Your master schedule should include the following activities and any others you may have.

— ALL required school activities
— work schedule
— after-school activities
— blank spaces for unknown activities

A master schedule can help you keep track of all the things that you need to do. If you know what you have to do and when you need to do it, you can prepare better to meet deadlines.

Plan by the week--

• Plan when to do all your tasks for the week. Schedule time to study for tests, read your textbooks, write papers, go to work, be at meetings. Leave enough time for your chores and household duties. Don't plan to do so many things that you don't have time to eat and sleep! Remember, if you don't get enough rest, you won't be able to do the things you have planned.

• Look at the WHOLE week.

• Schedule small blocks of time each day to study, instead of one large block during the week.

• Finish at least one task in each study block.

Plan each day--

• Make a "to do" list the night before or first thing in the morning. If you write down what you need to do, your mind will be free to study. You won't worry and spend time thinking about what you have to do next.

See how well your new schedule works--

Use it for a few weeks, then ask yourself some questions. Are you getting your schoolwork done on time? Are you getting more things done? Do you feel you have control of your time?

YES? Then your new schedule is working well.

NO? Then you should look at your schedule to see how it can be improved. Some of these things may help you.

• Cut out wasted time. Use more time for whatever needs it. Leave time for fun, too. Don't stop talking with your friends or listening to music. Just make sure you aren't spending all your time on fun and relaxation and leaving yourself short on time for other important things.

• Prioritize. Decide. What things MUST get done? What things can wait until you have time? Do the things that HAVE to be done. Don't worry about the rest. When you have time, do the things that can wait!

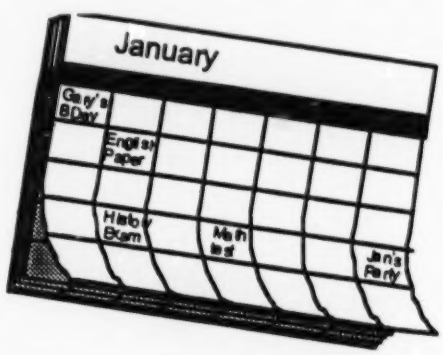
• Organize a long assignment. Look at it. How long might it take you to finish? Divide it into sections. These will be the different tasks that are pieces of finishing the assignment. List and organize how these tasks fit together. This list is the map that will guide you through the assignment. Breaking the big task into smaller ones makes it easier to manage. The smaller tasks might be to outline, gather reference material, read reference material, write rough drafts of each of the 5 sections, etc. Look at the smaller tasks. Estimate how long you will need to complete each of them. Break the tasks down until they are small enough that you feel you know about how long it will take to complete them. Then fit them into your schedule.

• Are you trying to do too much? Be realistic about what you can do before you make a commitment. It is fun and satisfying to be busy, but remember that there is only one of you! It is better to do a few things well than lots of things badly!

• How do you figure out what to do first? Look at your priority list. Analyze the work you have to do. Save the easiest task for last, when you are tired. Then start and finish a task that is fairly easy. This will give you that warm satisfaction of getting something DONE! Now, while you are fresh, attack the task that seems most difficult. When it is done, work your way through the next most difficult and on down to the easiest.

• Follow your schedule closely. Even a well-planned schedule can't help you if you don't follow it. Or, you may need to work on the schedule until it fits your life. If you plan your time wisely, you can get things done on time and have time to relax,too.

It is very important to manage your time wisely. As you get older, you will have more responsibilities. You will find it easier to succeed if you learn to budget your time well.



How to Manage Your Time was adapted from material prepared by the Learning Skills Center, Indiana University, Bloomington, Indiana 47405.

USING THE LIBRARY

Why is it important to know how to use a library?

Sometimes you need to find an answer to a question. Other times you need to research a topic for a school report. Sometimes you want to find CD's to listen to or videos to watch. Sometimes you want to find a book to read for enjoyment. A library is the best place to do all of these things.

A library is rich storehouse of information. Knowing how to use the library is a skill that will help you throughout your life.

Librarians are there to help you

Librarians are customer service people. Their job is to help you find the information you need. Librarians know the library can be a confusing place. They want to answer your questions. Always ask a librarian for help if you are confused or cannot find something.

Finding books in the library--

Let's say you have a paper due in your history class. Your teacher has asked you to write about a famous American leader. You have decided to write your paper about Dr. Martin Luther King, Jr. How will you find the books you need?

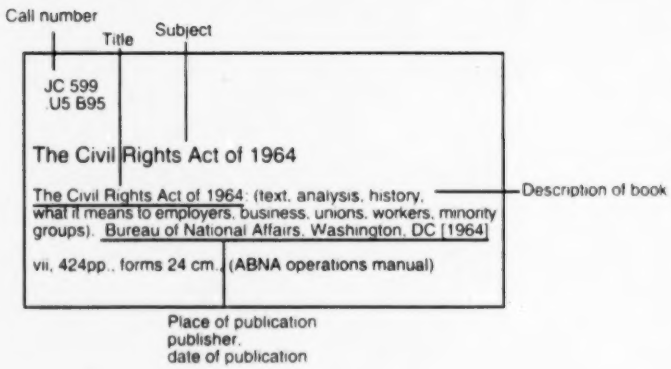
Using the card catalog--

To find books, you will need to use the card catalog. The card catalog lists all the items in the library (including books, CD's and videos). Card catalogs are either **electronic** (on a computer) or **print** (on cards in file drawers). Some libraries have both kinds.

To use the **print card catalog**, you should begin with the subject listings. This is the part of the card catalog that lists books by subject, or what the book is about. First, you would look under King, Martin Luther, Jr. This is because people are listed in the card catalog by their last names. Titles like Dr. are not included on catalog cards. Each card with the heading King, Martin Luther, Jr. will describe a book on your subject. The description on the card will tell you what the book is about, the name of the author, the date it was published, and the publisher. It will also tell you the **call number**. The call number is what you will need to find the book on the shelf. Make sure to write down the call number of every book about Dr. King that looks interesting to you.

If your library has an **electronic card catalog**, you would look there for books on Dr. King. Most electronic card catalogs allow you to search by subject like in the print card catalog. All electronic card catalogs are a little different. Instructions on how to use the system often appear on the computer screen or are posted somewhere near the computer. If you are unsure about how to use the system, just ask the librarian to show you.

When you search by subject in the electronic card catalog, you will find a list of books about Dr. King. Each book will have its own entry on the computer. An entry contains the same information as a card in the print card catalog. Again, make sure you write down the call numbers of the books that interest you.


Call number
Title
Subject
JC 599
.U5 B95
The Civil Rights Act of 1964
The Civil Rights Act of 1964: (text, analysis, history, what it means to employers, business, unions, workers, minority groups). Bureau of National Affairs, Washington, DC [1964]
vii, 424pp., forms 24 cm. (ABNA operations manual)
Description of book
Place of publication
publisher,
date of publication

The call number--

The call number tells you where a book, CD, or videotape is located on the shelves. Every item in the library has a unique call number. There are two main ways libraries organize their books. They either use the Dewey Decimal classification system or the Library of Congress classification system. Both systems group books by subject. For instance, all the books about Martin Luther King, Jr. will be together in one area. All the books on gardening or hockey or travel will be grouped together. Books are arranged by their call numbers on the shelves. Call numbers always go in order by number and letter.

How do I find a book on the library shelves?

Now that you have copied down the call numbers of the books you want, you will need to find the books on the shelves. The shelves are arranged in call number order. Each row of shelves usually has a sign that tells you what call numbers are on those shelves. Try looking around for the call number section you need. If you can't find the section, just ask a librarian.

Finding magazine articles in the library--

Using the *Readers' Guide to Periodical Literature*--

Let's go back to your history paper. Suppose your teacher asked everyone to find a magazine article about the leader they chose. *The Readers' Guide to Periodical Literature* is the best place to start looking for articles. The *Readers' Guide* is a set of green books that is usually shelved in the reference area of the library. The reference area is where encyclopedias, atlases, dictionaries and other books that can't be checked out of the library are shelved.

Each volume of the *Readers' Guide* contains listings of magazine articles from one year. To find articles about Dr. King, you could look at the recent volumes to see if any articles have been written about him recently. Or you could look at a volume from the 1960's to find articles that were written then. The *Readers' Guide* lists magazine articles by subject. If you look up King, Martin Luther in any year's volume, you'll see a list of **citations** for magazine articles about him. A citation gives the information you need to find the entire article in the library. A citation lists the name of the author, the name of the article, what magazine it appeared in, the date, volume, and page numbers.

Here is an example of a citation from the *Readers' Guide*:

> The dream is alive and well. C.S. King.
> *Newsweek* v.125 p.17 Ja 23, '95.

The first thing listed in the citation is the title of the article. In

this case, "The dream is alive and well" is the title of this article about Dr. King. C.S. King is the author of the article. *Newsweek* is the magazine that the article appeared in. "V. 125" stands for volume 125, the volume number of the magazine. "P. 17" means that the article begins on page 17. "Ja 23, '95" means that January 23, 1995 is the date the magazine was published.

Once you have found citations for articles about Dr. King, you should copy the complete citation for each article that interests you. For example, if you wanted to find the article listed above, you'd need to copy down all the information in the citation. Sometimes the name of the magazine will be abbreviated. You can look in the front of any volume of the *Readers Guide*, and it will provide a list of abbreviations and what they mean.

How do I find a magazine on the library shelves?

Now that you have the citations for the magazine articles, you need to find the magazines in the library. Many libraries have an area where the magazines are shelved in alphabetical order. Some libraries mix the magazines with the books on the shelves. If you don't see a magazine area in your library, just ask a librarian to show you where the magazines are kept.

Some important words to know--

Fiction books describe imaginary characters and events. Fiction books are often shelved alphabetically by the author's last name. Novels, short stories, poems and plays are examples of fiction.

Nonfiction books describe real things or real events. Travel guides, biographies, science, history and "How To" books are examples of nonfiction.

Where to look for information--

The reference section--The reference section is another important part of the library. It contains nonfiction books that can help you find out about a topic. The reference section includes books such as encyclopedias, dictionaries, *Who's Who*, atlases and maps. Reference books usually can't be checked out of the library. That way they are always there for people to use. The reference section often has tables or desks where you may sit to use the reference books. You may take notes there. Sometimes you can photocopy the pages you need to use at home.

Periodicals--Periodicals are also found in the library. Periodicals include magazines and newspapers that come out periodically—on a set schedule. Newspapers may come out every day or once a week. Magazines may come out weekly, monthly, or several times per year. Periodicals may have their own section in the library. Or, they may be shelved along with the books by their topic.

The *Readers' Guide to Periodical Literature* is a good place to begin looking for periodicals. The *Readers' Guide* is usually shelved in the reference section of the library. It is a guide to a large number of U.S. periodicals and is arranged by author and subject. The *Guide* includes listings of fiction, poems, records, and reviews of dance, music, movies, television, radio, theatre programs, and more. The *Readers' Guide* is not the only periodical index. There are others. If you learn how to use the *Readers' Guide*, you should be able to use the others without much trouble.

Let's go back to your Civics paper. If you want to use a periodical to get more information about Dr. Martin Luther King, Jr., look under King, Martin Luther in the *Readers' Guide*. The list tells you where to find articles about your topic

Subjects in the Dewey Decimal System	
-100	Philosophy and Related Areas
-200	Religion
-300	Social Sciences
-400	Language
-500	Pure Sciences
-600	Technology (Applied Sciences)
-700	The Arts
-800	Literature and Rhetoric
-900	General Geography and History

	Subjects in the Library of Congress
A	General Works
B	Philosophy and Religion
C	History (General)
D	History (Old World)
E	American History and General U.S. History
F	American History (Local and Latin America)
G	Geography, Anthropology, Folklore, Sport, etc.
H	Social Sciences
J	Political Science
K	Law
L	Education
M	Music
N	Fine Arts
P	Language and Literature
Q	Science
R	Medicine
S	Agriculture, Forestry, Animal Culture, Fish, Hunting
T	Technology
U	Military Science
V	Naval Science
Z	Bibliography and Library Science

What else can I find in a library?

Besides these materials to help you with your questions, the library has lots of other resources. You might find:

- albums, tapes, and other recordings. You can find all kinds of music, such as music from other parts of the world. You may also find poems, plays, stories to be read aloud, books for the blind, books on tape.
- films, videotapes, and film strips. You may check these out from many libraries. You might find classic movies, "How To" videos, and much more.
- news and information. You can catch up on world or local news, the latest in sports, travel, poetry, novels, or science fiction.
- pieces of art to check out for display in your home.

What else do I need to know?

Libraries also have another valuable resource— LIBRARIANS. Librarians are there to help you find the information you need. If you are confused or cannot find something, ask one for help.

LAST BUT NOT LEAST—IMPROVING YOUR MEMORY

Information now increases at a rate of 13% a year. It will soon jump to 40% a year.

With the enormous amount of new information which is becoming available to us, there is more and more that we are expected to remember. Technology is the culprit for creating this information output. We are going to need to keep our memory sharp in order to meet the information growth--and keep our wits about us!

Here are some ideas for improving your memory

• **Repeat and repeat**--Say it out loud over and over again; or look at it over and over again. But be alert while you are doing it. Be in 'active' mode when you are repeating your information.

• **Personalize the information**--If at all possible, relate the information to something about yourself or your life. For instance, if you need to know a history date, see if it relates to a family member's birthday or another date which has personal meaning.

• **Use your imagination**--Draw a picture or a diagram in your mind of what you need to remember. For instance, if there are three people you must remember with a specific event, try to picture them there. Give the people and the places names you can remember. Then relate those names to their real names. By picturing the place and people at the time you need to remember, the facts will come back to you.

• **Use relationships**--Create a relationship of the information to information which you already know. For instance, if you are familiar with a period of history through a story you have read, you can then relate that information to a chapter in history.

• **Draw a diagram on paper**--Put the information in clusters of related facts. Then draw lines to connect the ideas. You will be able to better memorize all of the ideas if they are organized. You can also then picture the diagram and fill in the blanks as you need to.

Some other suggested techniques include the following:

• **Use the outrageous**--Be silly, if necessary. You might sing the information to a tune you know. Create a rap or a poem. When you use your imagination to a point of being silly, you will have little trouble remembering the information!

• **Look for something odd**--For spelling words, you might use this technique: break down the word or look for something unique about it. For instance, "capacity" becomes "cap a city." (You can then picture a city with a big cap on it!) Another example is that the word "bookkeeper" has three pairs of letters in it. The word "achievement" has the word "eve" in it.

• **Create an acronym** out of the sentences or words you need to learn. For instance, the acronym of ICPAC stands for the Indiana College Placement and Assessment Center. Or make a sentence acronym of names or words you need to learn. An example of this would be "My very educated mother just served us nine pizzas," to remember the planets in order in the solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto.

• **Link items**--To remember a list of items, link the first item with the second, the second to the third, and so on.

• **Stack method**--Picture the items piled on top of one another and then unstack them in your mind as you have to recall them.

• **Path method**--Imagine a path and place items to be remembered along the path. For instance, if you need to remember the order of battles fought during a war, identify the battles along an imaginary path. It might be easier than trying to learn a list.

In order to memorize, you will need to have a clear mind, with no distractions taking place around you. Then concentrate on the material you want to learn. You may need to review the material over and over until you have learned it through these memory techniques.

"Research shows people can remember 25 to 50 percent more simply by intending to remember," states Debbie Nelson, Human Resources Management Trainer at Indiana University. "It's a matter of focusing on remembering. There's no such thing as a bad memory--only an untrained memory." According to recent studies, most people use only 3 percent of their brain.

Other sources to read more about memory:
* *How to Develop a Super Power Memory* by Harry Lorayne
* *Super Memory* by Douglas Hermann
* *Your Memory* by Kenneth Higbee
* *Memorizing Made Easy* by Mort Herold

Information for this chapter was compiled from the following sources:

"Playing Mind Games;" by Dann Denny, The Herald-Times, February 4, 1993, Section D, p. 1.
Ten Tips for Top Grades, Pepsi School Challenge Student Guide, created for the CSFA Scholarship, p. 8.
"Mastering Your Memory," *Themis*, Winter, 1992, p. 28-29.